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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/966,492	09/28/2001	Ali Cherchali	2000-0219	5290

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EXAMINER	
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ART UNIT	PAPER NUMBER
2619	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/966,492	CHERCHALI ET AL.	
	Examiner	Art Unit	
	ANTHONY SOL	2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 April 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,7-14 and 16-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7-14 and 16-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

- Applicant's Amendment filed 4/28/2008 is acknowledged.
- No claims have been amended.
- Claims 6 and 15 were previously canceled.
- Claims 1-5, 7-14, and 16-18 remain pending.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-5, 7, 9-14, 16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pub. No. US 2002/0064152 A1 ("Lemley") in view of Pub. No. US 2003/0048772 A1 ("Blum")

Regarding claims 1 and 10,

Lemley shows in Fig. 4 a packet voice gateway (PVG) used in a conversion of VoIP signals in DOCSIS HFC networks to circuit switched telephony signals. The figure also shows non-voice data packet being separated from the VoIP call by the CMTS/ER and being routed to the IP data network. Although Lemley discloses that PVG is located on the line side of the network instead of the HFC network as claimed, it is within the appreciation of one of ordinary skill in the art that the PVG or any equivalent

translator may be placed in the HFC network, since the placement of the translator would work equally well in either location (pg. 2, para. 16, lines 9-13, para. 17, lines 6-9).

Note that it has been held that there is no invention in shifting the location of a device since the operation of the device would not thereby be modified. (In re Japikse, 86 USPQ 70 (CCPA 1950)).

Lemley discloses that the primary difference between a DOCSIS access system and a circuit switched access system is that the DOCSIS system transport services in the form of IP packets, where the circuit switched access system transport services in the form of traditional Time Division Multiplex (TDM) links (pg. 1, para. 9-14).

Lemley discloses converting VoIP local telephone service signaling to lines side local switch signaling (pg. 2, para. 19, lines 12-18).

Lemley shows in Fig. 4 by way of an arrow a circuit switched (TDMA) voice call being routed to the second network and processing TDM call in the second network as discussed above and routing the call out of the switch to its intended destination.

Lemley does not disclose performing required signal processing protocols in the first network to allow the VoIP call to interact with the first network as if the first network was performing switch-based processing functions and providing at least one feature for the call.

Blum discloses that architecture as depicted in Fig. 3 whereby the VoIP call is signal processed by the IPDT's signaling converter 310 and voice converter 330 to be further routed and further processed by the LDS.

Blum further discloses that the system of Fig. 2 must preserve timing in order for the receiving telephone to display the caller ID.

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention was made to modify the VoIP system of Lemley to include in the architecture the signaling and voice converters and caller ID feature of Blum. One skilled in the art would have been motivated to make the combination so that they can perform required signal processing protocols in order to bridge service between a circuit switched based access network and a packet based access network such as an HFC access network (Lemley, pg. 2, para. 16, lines 2-6).

3. Regarding claims 2 and 11,

Lemley discloses that the PVG is capable of converting VoIP local telephone service signaling to line side local switch signaling and conversion of Voice over IP packets to standard 64 Kbps voice payload (the telephony conversation)(para. 19; claims 2, 11 – the translating step includes translating the VoIP call into a bearer portion and signaling portion).

4. Regarding claims 3 and 14,

Lemley discloses converting VoIP local telephone service signaling to line side local switch signaling via common U.S. GR-303 switch signaling (pg. 2, para. 19; claims 3, 14 – IP signal is mapped to GR-303 format).

Lemley does not disclose explicitly disclose that the mapping to GR-303 format include performance as well as functional call aspects to allow full-featured processing by the second network.

Blum discloses a method for interfacing a GR303-based interface to a VoIP enabled network and that GR303 protocol contain signaling such as off hook, ring, connection, disconnection, etc. (Blum, pg. 1, paras. 4, 8; claims 3, 14 – to include performance as well as functional call aspects to allow full-featured processing by the second network).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention was made to modify the VoIP system of Lemley to include in the mapping signaling such as off hook, ring, connection, and disconnection as taught by Blum. One skilled in the art would have been motivated to make the combination to support telephone telephony between the two interfaces (Blum, pg. 1, para. 8).

5. Regarding claims 4 and 13,

Lemley does not disclose IP signaling information includes on-hook and off-hook line status and the GR-303 format includes ABCD signaling bits.

Blum discloses NCS protocol containing signaling such as off-hook. It is inherent in the reference that on-hook line status is included (Blum, pg. 1, para. 4; claims 4, 13 – the IP signaling information includes on-hook and off-hook status).

Blum shows in fig. 4 that the GR303 includes ABCD signaling (Pg. 3, para. 29; claims 4, 13 - GR-303 includes ABCD signaling bits). Figs. 5A and 5B show an off-hook

event and for converting an RTP-based (IP) signaling into an ABCD signaling (Blum, pg. 3, paras. 32, 33; claims 4, 13 – the line status in the IP signaling is mapped to an equivalent line status in the ABCD signaling bits).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention was made to modify the VoIP system of Lemley to include signaling such as off-hook, on-hook and GR303 signaling ABCD as taught by Blum. One skilled in the art would have been motivated to make the combination to support telephone telephony between the two interfaces (Blum, pg. 1, para. 8).

6. Regarding claims 5 and 12,

Lemley does not disclose IP signaling information includes power ringing indication, and the GR-303 format includes the ABCD signaling bits, wherein the power ringing indication received via the ABCD signaling bits is mapped to an equivalent power ringing indication in the IP signaling information.

Blum shows in fig. 4 that LDS sends a ring signal 454 to the $IPDT_B$ using GR303 ABCD signaling. The ABCD-based ring signal is received at the $IPDT_B$, which converts (maps) the ring signal to a signal in RTP (IP signaling)(Blum, pg. 3, para. 29; claims 5, 12 – GR-303 includes ABCD signaling, power ringing indication received via the ABCD signaling bits is mapped to an equivalent power ringing indication in the IP signaling information).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention was made to modify the VoIP system of Lemley to include ring signal 454 sent to the $IPDT_B$ and the ABCD-based ring signal received at the $IPDT_B$, which maps the ring signal to RTP signaling as taught by Blum. One skilled in the art would have been motivated to make the combination to support telephone telephony between the two interfaces (Blum, pg. 1, para. 8).

7. Regarding claims 7 and 16,

Lemley shows in fig. 4 that the second network is the local telephone switch (PSTN)(claims 7, 16 – the second network is a public switched telephone network).

8. Regarding claims 9 and 18,

Lemley does not explicitly disclose translating the call back to a VoIP call if the destination lies in the first network.

Blum shows in fig. 4, the routing steps for a VoIP call from the first network, Ta, to the second network (LDS), and then returning to the first network to T_b. (claims 9, 18 – translating the call back to a VoIP call if the destination lies in the first network).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention was made to modify the VoIP system of Lemley to allow translating a call back to the original network as taught by Blum. One skilled in the art would have been motivated to make the combination to support bidirectional conversion of line side local switch signaling and packet based signaling (Lemley, pg. 2, para. 19).

9. Claims 8 and 17 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Lemley in view of Blum, and in further view of Admitted Prior Art.

Lemley in combination with Blum does not disclose that the second network features include CLASS, custom calling, and Centrex features.

The Applicants have admitted that the CLASS feature is a service of Telcordia, Inc. (applicants' specification, pgs. 5-6, para. 26; claims 8,17 – at least one feature includes at least one of: a CLASS feature, custom calling feature, or a Centrex feature).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the Lemley-Blum's network, the CLASS feature as admitted by the Applicants as prior art so that a full suite of VoIP capabilities can be offered to the VoIP customers (Blum, pg. 1, para. 6-7).

Response to Arguments

10. Applicant's arguments filed 4/28/2008 have been fully considered but they are not persuasive.

- A substantial part of the Applicant's arguments have already been addressed by the Examiner in previous Office actions.

- The Applicant argues on pg. 8 of the Remarks section that Lemley's Packet Voice Gateway (PVG) is deployed on the line side of the

communication network and thus allegedly fails to teach or suggest that translation is performed within the HFC network.

- The Examiner respectfully disagrees. As pointed out in the rejection to claims 1 and 10 it has been held that there is no invention in shifting the location of a device since the operation of the device would not thereby be modified. (In re Japikse, 86 USPQ 70 (CCPA 1950)).

- The Applicant further argues beginning on page 9 of the Remarks section that the Examiner's rejection must provide a reason that stems from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art.

- The Examiner respectfully disagrees because KSR forecloses the argument that a **specific** teaching, suggestion, or motivation is required to support a finding of obviousness. See the recent Board decision *Ex parte Smith*, --USPQ2d--, slip op. at 20, (Bd. Pat. App. & Interf. June 25, 2007)(citing KSR, 82 USPQ2d at 1396)(available at http://www.uspto.gov/web/offices/dcom/bpai/prec/fd071925.pdf). The claim limitation of translating in the first network would have been obvious because market forces provided a reason to make an adaptation (translating in the HFC network versus PSTN network),

and the invention resulted from application of the prior knowledge in a predicable manner. Thus, the Examiner maintains that the process of translating the VoIP call into a Time-Division Multiplexed (TDM) call having the capability of processing TDM calls as claimed is taught by Lemley.

Furthermore, Lemley discloses:

> The PVG of the present invention is preferably bidirectional, in that it provides bridging capability for both connecting packet based access networks (such as for example a HFC access network as illustrated in the below figures) to the current circuit switched PSTN and connecting circuit switched based access networks (such as for example the HFC and DLC networks illustrated in the below figures) with the new packet based public network. More specifically by way of illustration, the PVG in the below-illustrated embodiments of the present invention preferably performs: (1) conversion and inter-connection of VoIP signals in DOCSIS HFC networks to circuit switched telephony signals (see FIG. 4 for PVG in HDT context, and FIG. 5 for PVG in DLC terminal context); and (2) conversion and inter-connection of circuit switched telephony signals on cable telephony and DLC systems to Voice over IP telephony signals (see FIG. 6 for PVG in HDT context, and FIG. 7 for PVG in DLC terminal context). If desired, the preferred PVG can simultaneously provide both (1) and (2) conversion and interconnection functionality (Lemley, para. 16).

It is clear according to the above-cited portion of Lemley that his PVG performs the translating steps as recited in Applicant's claim 1. There appears to be no requirement that any of the process in the above-cited portion or in the Applicant's claim 1's limitations that technologically compels the process of translating to be performed within the first network. Therefore, the Examiner

reiterates that ***it has been held that merely shifting the position of a device is unpatentable since it would not have modified the operation of the device (In re Japikse, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950)).*** Therefore, the Examiner maintains that Lemley and Blum teach the limitations of claims 1 and 10.

- In the Remarks section, pgs. 9-10, the Applicant argues that unlike the Japikse case, moving the PVG or equivalent translator would require the PVG to be compatible with the protocols and physical connections of two different types of networks, which would modify the operation of the device.
- The Examiner respectfully disagrees. Comparing figure 1 of the instant application with Lemley's figure 4 shows IPDT and PVG, respectively, interfacing the same two network devices, namely CMTS/ER on the HFC network and Local Telephone Switch on the PSTN network. As for the protocols, both IPDT and PVG are compatible with MGCP (media gateway control protocol) on the HFC network and GR303 switch interface on the PSTN network (see fig. 4 of the instant application and fig. 4 and paragraph 0019 of Lemley). Therefore, contrary to the Applicant's assertion, moving the PVG or equivalent translator would not modify the operation of the device.

- The Applicant further argues at the bottom of pg. 10 of the Remarks section that Lemley and Blum teach away from the Applicant's invention by explicitly teaching that the PVG or equivalent translator should be placed on the line side of the communication network or within an IP network citing case law Ex parte Chicago Rawhide Mfg. Co.

- The Examiner respectfully disagrees. Whether the translation takes place in the line "side" or the HFC network "side" is mainly a business and/or regulatory issue rather than a technological one. In other words, it's technologically not relevant who deploys the equipment in their facility (i.e. "side"). What's technologically relevant is what equipments/units are connected and under what protocol/standards they communicate. Specifically, concerning claims 1 and 10, the Applicant's fig. 1 depicts an IPDT (i.e. translator of claims 1 and 10) connecting to a local digital switch 30 (also see Applicant's spec., paras. 21-25) under standard interface GR-303 (note that GR-303 defines the interface between a Digital Loop Carrier and a local digital switch). Similarly, Lemley shows in fig. 4 a Host Digital Terminal (HDT, an embodiment of a DLC) connected to a local telephone switch. Lemley shows in fig. 5, a generic Digital Loop Carrier connected to a local telephone switch. In both cases,

the GR-303 switch interface is used in “converting VoIP local telephone service signaling…to line side switching” (see Lemley, para. 19). Thus, it is clear that fig. 1 of the Applicant and figs. 4 and 5 of Lemley depict a translator (i.e., IPDT of Applicant and HDT or GLC of Lemley) connected to a local digital switch using GR-303 interface standard. Therefore, the translator would be able to operate similarly whether it was located in the HFC network "side" or in the line network “side”. The difference would be who owned the equipment, not in how they operate insofar as the claimed limitations are concerned.

- The Applicant further argues on pg. 11 of the Remarks that the IPDT performs translation allowing the PSTN to perform call processing and thus avoiding the need to provide the necessary call-processing infrastructure within the HFC network itself.
- As detailed in the rejection to claims 1 and 10, the IPDT of Blum provides translation of both call signaling packets and voice packets on the IP network 120 to their appropriate counterparts on the LDS 120 (see Blum, para. 22). Note that the Applicant's VoIP call traversing the HFC network also operate in the IP protocol.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY SOL whose telephone number is (571)272-5949. The examiner can normally be reached on M-F 7:30am - 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wing Chan can be reached on (571) 272-7493. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Anthony Sol/
Examiner, Art Unit 2619
7/17/2008

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